

**REMARKS**

Applicants submit this Reply in response to the final Office Action mailed September 4, 2008. Claims 29-43 and 49-56 are currently pending, of which claim 29 is independent. Applicants have amended claim 31 and withdrawn claims 44-48. In the final Office Action, the Examiner maintained the restriction requirement of claims 44-48. The Examiner rejected claim 31 under 35 U.S.C. § 112, ¶ 2 as being indefinite for failing to particularly point out and distinctly claim the invention. The Examiner rejected claims 29-36, 38-43, and 49-56 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,172,803 ("Masuda et al.") in view of U.S. Patent Application Publication No. 2002/0080474 ("Ohishi et al."). Finally, the Examiner rejected claim 37 under 35 U.S.C. § 103(a) as being unpatentable over Masuda et al. and Ohishi et al. and further in view of U.S. Patent No. 6,310,716 ("Evans et al."). Applicants traverse the pending rejections for at least the reasons set forth below.

**Restriction Requirement**

Applicants thank the Examiner for his clarification of the pending restriction requirement of claims 46-48. In the final Office Action, the Examiner explained that he "concluded that claims 46-48 (in addition to [claims] 44 and 45 which claim a doped fiber amplifier) referred to an embodiment with an EDFA, and withdrew them for not reading on the elected embodiment (a Raman amplifier)." Final Office Action dated September 4, 2008, at 2-3. While Applicants do not believe that claims 46-48 are limited to an EDFA embodiment, Applicants have withdrawn dependent claims 46-48 with the understanding that these claims will be rejoined when the application is allowed, provided that the scope of independent claim 29, from which claims 46-48

depend, continues to include a claimed “third amplifying stage” covering both EDFA and Raman amplifier embodiments.

**Rejections Under 35 U.S.C. § 112**

The Examiner rejected claim 31 under 35 U.S.C. § 112, ¶ 2 because “the use of ‘about’ renders the claims [*sic*] indefinite because of its use in creating a doubly open-ended range.” Final Office Action dated September 4, 2008, at 3. In response, Applicants have amended claim 31 to remove its dual use of the word “about,” thereby removing the doubly open-ended range forming the basis of this Section 112 rejection. For at least this reason, Applicants submit that the pending rejection of claim 31 under 35 U.S.C. § 112 should be removed.

**Rejections Under 35 U.S.C. § 103(a)**

Applicants respectfully traverse the Section 103(a) rejections of pending claims 29-43 and 49-56. To establish a *prima facie* case of obviousness, “All Claim Limitations Must Be Considered.” M.P.E.P. § 2143.03 (8th ed., rev. 6, Sept. 2007). More specifically, the M.P.E.P. requires that “[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art.” *Id.* (quoting In re Wilson, 424 F.2d 1382, 1385 (CCPA 1970)).

Applicants’ representative independent claim 29 requires a particular sequence of first, second, and third amplifying stages in which the first stage includes a rare-earth doped optical active fiber, the second stage comprises a tellurite-based active fiber doped with a rare earth element, and the third stage includes a silica-based fiber. As discussed in more detail below, the Examiner’s cited art, as applied in the final Office Action, fails to disclose or suggest at least the particular sequence of first, second, and

third amplifying stages as claimed, and therefore cannot reasonably anticipate or render obvious Applicants' independent claim 29.

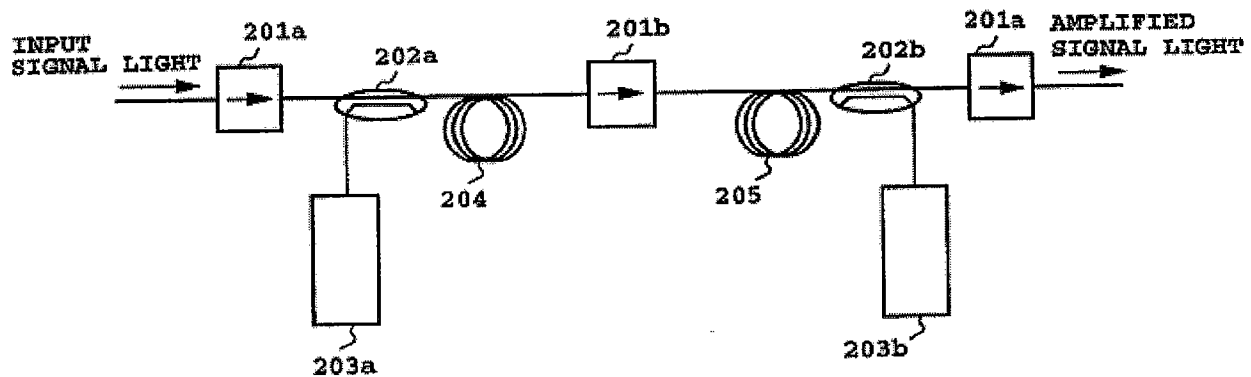
The Examiner acknowledges that Masuda et al. discloses an amplifier comprising two erbium doped fiber amplifiers ("EDFA") and "fails to disclose either of the EDFA's being of a tellurite network former."<sup>1</sup> Final Office Action dated September 4, 2008, at 4. For at least this reason, Masuda et al. cannot disclose or suggest at least the "second amplifying stage comprising a tellurite-based active fiber doped with a rare earth element," as recited in Applicants' independent claim 29. Instead, the Examiner contends that "it would have been obvious to one skilled in the art (e.g. an optical engineer) at the time the invention was made, to replace the silica EDFA's of Masuda with the EDFA stages of embodiment 41 of Ohishi." *Id.* at 4-5. However, the Examiner based his final rejection of independent claim 29 on an improper characterization of the combined disclosures of Masuda et al. and Ohishi et al.

First, the Examiner respectively equated Applicants' claimed "first amplifying stage" and "second amplifying stage connected to said first amplifying stage" with the fiber amplifiers 205 and 204 shown in FIG. 31 of Ohishi et al. See, e.g., final Office Action dated September 4, 2008, at 5. The Examiner's mapping is incorrect for at least the reason that the fiber amplifier 204 (alleged "second amplifying stage") is the first amplifying stage in Ohishi et al. and the fiber amplifier 205 (alleged "first amplifying stage") is the second amplifying stage connected to the first amplifying stage in

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<sup>1</sup> The Office Action contains a number of statements reflecting characterizations of the Applicants' disclosure, including the claims, and the related art. Regardless of whether any such statement is specifically addressed herein, Applicants decline to automatically subscribe to any statement or characterization in the Office Action.

Ohishi et al., as shown in FIG. 31 reproduced below. Therefore, the Examiner's application of the cited art does not disclose or suggest the correct order of the sequentially connected "first amplifying stage" and "second amplifying stage," as required in independent claim 29.



**FIG.31**

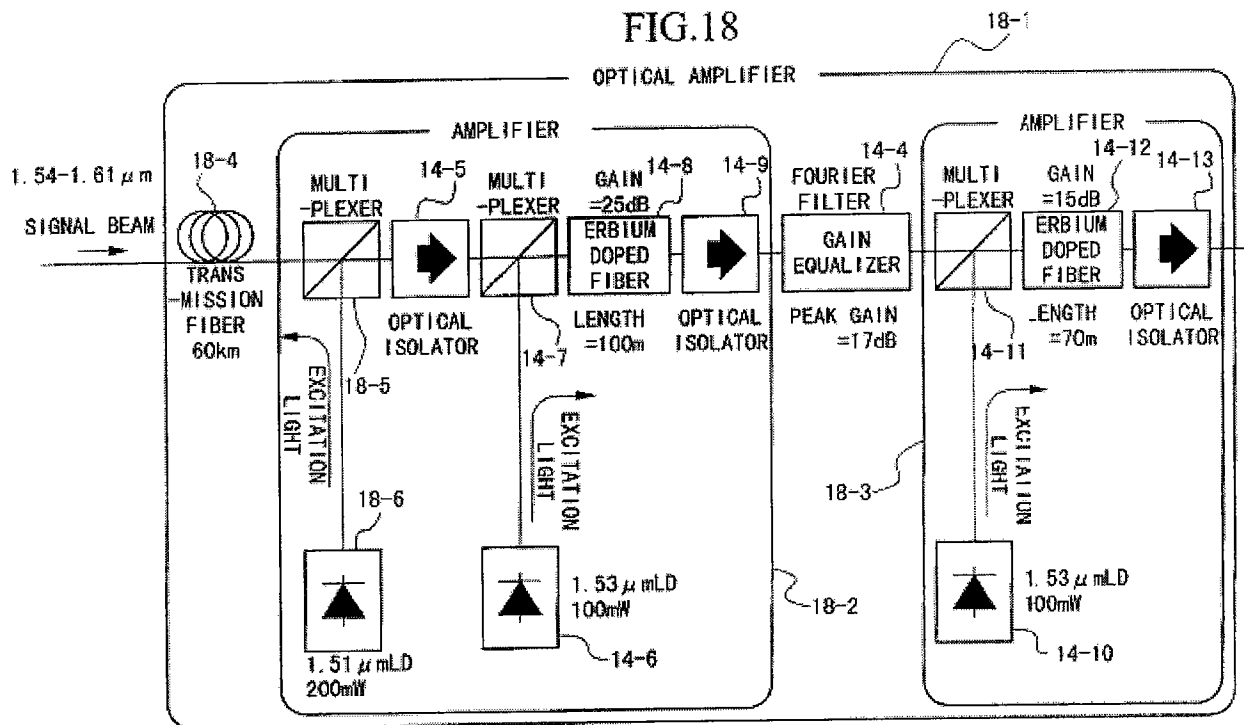
Ohishi et al., FIG. 31

Further, the Examiner equated Applicants' claimed "first amplifying stage including a rare-earth doped optical active fiber" with the tellurite-based fiber 205 in Ohishi et al. and equated Applicants' claimed "second amplifying stage comprising a tellurite-based active fiber doped with a rare earth element" with the silica-based fiber 204 in Ohishi et al. Again, this mapping is incorrect for at least the reason that the Examiner's rejection is based on a first amplifying stage having a tellurite-based fiber rather than a "second amplifying stage comprising a tellurite-based active fiber doped with a rare earth element," as recited in Applicants' independent claim 29.

Second, the Examiner improperly equated the Raman amplifier 18-4 shown in FIG. 18 of Masuda et al. with Applicants' claimed "third amplifying stage connected with

said second amplifying stage, said third amplifying stage including a silica-based fiber.”

As shown in FIG. 18 (reproduced below), the Raman amplifier stage 18-4 in Masuda et al. is the first amplifying stage that precedes each of the subsequently connected amplifying stages 18-2 and 18-3. In contrast, Applicants’ claimed “third amplifying stage” is the last amplifying stage, i.e., connected following both the first and second amplifying stages recited in independent claim 29. Claim 29 recites, among other things, that the “third amplifying stage [is] connected with said second amplifying stage” and the “second amplifying stage [is] connected to said first amplifying stage.”



Masuda et al., FIG. 18

In view of the foregoing, Applicants respectfully submit that independent claim 29 is allowable over the Examiner’s combination of Masuda et al. and Ohishi et al. Dependent claims 30-43 and 49-56 depend on allowable independent claim 29 and are

therefore allowable for at least the same reasons, notwithstanding the additional cited reference that the Examiner applied against dependent claim 37.

### **Conclusion**

The preceding remarks are based only on the arguments in the Office Action, and therefore do not address patentable aspects of the invention that were not addressed by the Examiner in the Office Action. The claims may include other elements that are not shown, taught, or suggested by the cited art. Accordingly, the preceding remarks in favor of patentability are advanced without prejudice to other possible bases of patentability.

Applicants respectfully request that this Reply After Final under 37 C.F.R. § 1.116 be entered by the Examiner, placing claims 29-43 and 49-56 in condition for allowance. Furthermore, Applicants respectfully point out that the final action by the Examiner presented some new arguments as to the application of the art against Applicants' invention. It is respectfully submitted that the entering of this Reply would allow Applicants to respond to the final rejections and place the application in condition for allowance. Finally, Applicants submit that the entry of the amendment would place the application in better form for appeal, should the Examiner continue to dispute the patentability of the pending claims.

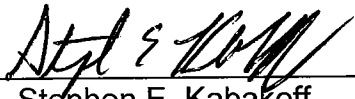
In view of the foregoing remarks, Applicants submit that this claimed invention is neither anticipated nor rendered obvious in view of the prior art references cited against this application. Applicants therefore request the entry of this Reply, the Examiner's reconsideration and reexamination of the application, and the timely allowance of the

pending claims. Please grant any extensions of time required to enter this response  
and charge any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,  
GARRETT & DUNNER, L.L.P.

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By:   
Stephen E. Kabakoff  
Reg. No. 51,276  
(404) 653-6477